

WE Claim:

1. A thumbwheel input device characterized by:
 - a. a wheel having a first axis of rotation whereby a first input is generated by rotation of the wheel about the first axis; and,
 - b. a holder having a second axis of rotation and a portion thereon to receive the wheel whereby a second input is generated by rotation of the holder about the second axis.
2. A thumbwheel input device of claim 1 further comprising:
 - a. a first input detection means for detecting input about the first axis; and,
 - b. a second input detection means for detecting input about the second axis.
3. A thumbwheel input device of claim 2 wherein a portion of the wheel is partially protruding outside a housing enclosing the thumbwheel input device so as to permit the receiving of the first and second inputs
4. A thumbwheel input device of claim 2 wherein the first input detection means is a rotating encoder switch.
5. A thumbwheel input device of claim 2 wherein the second input detection means is a tactile switch.

6. A thumbwheel input device for a handheld electronic device with a housing in an inclined orientation comprising:
 - a. a wheel with an axle rotating around a first axis of rotation and that partially protrudes through the device housing on an incline;
 - b. a rotating encoder switch for receiving a first input when the wheel rotates about its first axis with an aperture and in which the wheel axle sits;
 - c. a printed circuit board with a first side and second side wherein the rotating encoder switch is attached to the first side of the printed circuit board;
 - d. a holder having a second axis of rotation that contains the wheel, the printed circuit board, and rotating encoder switch, which is oriented on an incline;
 - e. a tactile switch that is attached to the second side of the printed circuit board for receiving a second input;
 - f. a stop that engages the tactile switch for receiving a second input about the second axis of rotation.
7. The thumbwheel input device of claim 6 wherein the stop is an arm attached to the bottom of the holder that extends up toward the tactile switch.
8. The thumbwheel input device of claim 6 wherein the stop is a protrusion from the device housing that extends up toward the tactile switch.

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